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SUGGESTIONS FOR ITS DIMINUTION.

BY

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ON THE MORTALITY ARISING FROM ABDOMINAL HERNIA:

WITH SUGGESTIONS FOR ITS DIMINUTION.*

By JOHN BIRKETT, F.R.C.S.,

Surgeon to Guy's Hospital.

I HAVE been induced to bring forward the subject of the mortality caused by abdominal hernia at this annual gathering of the profession, from a conviction that many facts connected with the pathology of that disease are yet indistinctly known, or not generally acknowledged; and because small opportunities are afforded to a large majority of surgeons to witness the results of the improper treatment too often adopted. But, it may be justly asked, what authority have you for commenting on the treatment generally recognised as correct? I reply, the experience of thirty years, during which period several hundred cases have afforded opportunities for investigating the causes which saved the lives of sufferers, or accelerated their deaths.

The position I have the honour to occupy at Guy's Hospital, and the use I have made of the occasion, are the credentials which I offer to save me from the charge of presumption, if I thus, too boldly, some may think, charge the profession generally with the cause of this mortality. I trust I may not be considered to cast a slur upon the profession with which it is my pride and pleasure to be associated; for, as our paramount duty is to save life, so it seems to me as decidedly a part of that duty to expose the errors we may observe in the treatment of diseases, since, by the exposure of their consequences and the adoption of improved methods, it is fair to infer that their mortality may be greatly reduced. If I criticise the present mode of treatment severely, it is only because I hope by so doing to lead to the introduction of a method more free from danger; and, if I could be assured that a single life was thereby saved, the object of this communication would be attained.

Let me now adduce proof of the statement that the mortality from hernia is large. For this purpose I will quote, first, the report of the Registrar-General of Deaths in London, from 1848 to 1867 inclusive. In the last twenty years, 2,990 deaths are registered as the result of hernia in the London districts. This gives an average of 149 deaths *per annum;* or, of one death in between every second and third day. Secondly, the Registrar-General reports to me that the total deaths from hernia in the three years 1862-63-64 in England amounted to 2,480. The average being 826 *per annum*, or more than two deaths a day from hernia alone.

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* Read in the Surgical Section before the Annual Meeting of the British Medical Association in Oxford, August 1868.

Surely this is a startling fact! For, it must be borne in mind that these 800 human beings died only because the protrusion was not returned *at all*, or *soon enough*, to prevent such fatal results. Since, on reflection, we must admit that there was a moment in each individual case when suitable treatment would have saved life almost certainly. But now, with these facts before us, let us search for the causes of this great mortality.

John Hunter writes most pertinently on this subject when he states—"If the disease is already formed, we ought to know the modes of action *in the body*, and *in parts*, in their endeavour to relieve themselves; the powers they have of restoring themselves, and the means of assisting those powers." (Hunter's *Works* (Palmer edition), vol. i, p. 209.) Does the surgeon who leaves a patient suffering with strangulated bowel for four or five days "know the modes of action in the body or in the parts" involved? Does he recognise the constitutional effects of uncontrolled vomiting, together with starvation, for all that time, or the feeble reparative powers of a patient 60 or 70 years old? Does he foresee the probable effects of firm constriction upon the delicate tissues of the protruded viscus for the same length of time? If he does not, he is ignorant of one of the first principles of surgery. If he does, he is culpably negligent in not resorting to the only method of relief. Does the surgeon know the powers the parts of the body have of restoring themselves, and does he adopt the means of assisting those powers by squeezing, crushing, and eventually destroying the tissues of the protruded bowel by violent taxis? Would he not rather be acting up to the spirit and letter of the quotation from Hunter if, by practising scientific gentleness in the taxis, and then failing to reduce the hernia, he immediately had recourse to the liberation of the bowel by dividing the impediment to its replacement within the abdomen?

Let us next inquire what are the constitutional and local conditions which make abdominal protrusions so fatal? For months, even years, a portion of intestine has frequently protruded, and has been easily replaced without any inconvenience; but on a sudden it escapes once more from the abdominal cavity, and death ensues in a few hours. I have designedly placed the constitutional effects produced by an unreduced enterocele first, in the foremost rank, because almost exclusive attention is devoted to the local tumour. The insidious influences progressively at work to extinguish life during the time the intestine remains unreduced are too little considered generally, and in many cases are entirely overlooked; whilst the most assiduous attention is being devoted to the local tumour with unavailing energy. But if more observation was bestowed on the constitutional prostration of the sufferer and the cause of death traced to that fact, as would certainly be the result of reflection, the local tumour would then receive that attention from the surgeon which alone could influence the result of the case. And, does not nature lead the surgeon, or rather attract his attention, to one of the most obvious causes of the fatal consequences? For, what is more distressing to witness, from the very outset of the case, than the persistent and uncontrollable vomiting of everything swallowed, and even much more. What depresses the nervous system so fatally? What is more hopeless than recovery from the prostration resulting therefrom? Do we not admit that from continued vomiting, as from that induced by chloroform, weakly persons will sometimes sink? and that without any other efficient cause. Do not patients sometimes die as the result of prostration from vomiting, even when the unhurt bowel is returned by gentle manipulation? They do. M. Malgaigne describes such cases; I have records of like cases, and probabaly some present have also noticed them.

This first natural consequence of intestinal obstruction would seem, indeed, specially important in attracting the observation of the surgeon, and should induce him to seek for its cause, because it often happens that persons, women especially, ignorant of the existence of a rupture, and feeling little, if any, pain in the tumour at first, have no cause to call his attention to the immediate and only source of all the trouble; for to neglect, oversight, or ignorance of the existence of rupture many deaths must be attributed. The cause of a very large proportion of the deaths arising from ruptures must be assigned to the effect of the prostration of the nervous system above described. In proof of this statement, we may instance those patients who die within a few hours after the liberation of the bowel without ever rallying at all. Cases in which an after death examination reveals no local lesion to produce that result. How unbounded, then, should be the anxiety of the surgeon to arrest this vomiting. He perhaps shows it by administering medicines by the mouth or the rectum. But with what result? How futile the treatment is let the mortality from hernia demonstrate. If he considered the vital importance of arresting this vomiting, he would surely put in practice the only treatment by which it can certainly be controlled; and, by removing the cause of the obstruction to the passage of the contents of the alimentary tube, he would reduce the mortality from hernia. The causes of death —the immediate—we may state to be the following.

1. Prostration, the result of long continued vomiting, starvation, and loss of sleep.

2. Local or general peritonitis, probably excited by the introduction of the inflamed protrusion into the peritoneal cavity.

3. The irreparable morbid state of the protruded viscus, brought about by the long continued constriction to which it was subjected.

4. The consequences, resulting from obstruction, to that division of the alimentary canal above the protrusion which, having become dilated, and in some cases thickened, seems at last to fail to contract upon its contents, even after the removal of the constriction.

5. The morbid condition of the viscus, brought about by the pressure employed unskilfully and unscientifically in attempts to reduce it.

And here, upon the subject of taxis, I must dilate more fully; for to its injudicious use a very large proportion of the deaths must be ascribed.

a. Taxis employed badly, improperly, erroneously, in an anatomical sense; *e. g.*, when a man tries to reduce a femoral hernia, believing it to be inguinal.

b. Taxis used with violence; *e. g.*, when the integuments are ecchymosed, effused blood is found in the sac, and the intestine is mashed.

c. Taxis prolonged inordinately; *e. g.*, when we are told by the patient or friends that "the doctor" was trying for three or four hours to push it up.

d. Taxis too frequently repeated; *e. g.*, when we hear that Mr. —— came in the morning, a friend at noon, the assistant in the afternoon, and he himself again in the evening; when, failing to reduce the hernia, he sends off the patient to the hospital.

e. Taxis at the wrong moment; *e. g.*, after regurgitant vomiting of many hours' duration, when the abdominal muscles are rigid, and contract involuntarily.

f. Taxis employed without taking advantage of aids to its accomplishment; *e. g.*, when neither local warmth nor cold has been previously applied; and when the constitutional effects of heat, opium, or chloroform have been entirely neglected.

The above are not exaggerated statements of the injuries inflicted by

the employment of the taxis; I could cite case after case in support of them.

But we must not attribute the cause of death to injudicious professional treatment too hastily. There are circumstances which give rise to the fatal issue for which the patient or the patient's friends must be held solely responsible. They are as follows.

1. Neglecting to send for surgical assistance at an early period of the illness.

2. Sending to a chemist for medicine, and not to a surgeon, in the first instance.

3. Persistent obstinacy in refusing to allow surgical treatment at the proper moment.

4. Continued attempts at reduction of the hernia on the part of the patient.

Having now, as briefly as possible, stated the chief causes of death from hernia, let us examine the bearing of these facts on the salvation of life.

First, how are we to arrest the vomiting, the chief cause of fatal prostration? I reply, by removing the obstruction to the passage of the contents of the alimentary canal as quickly as possible; or, in other words, by reducing the hernia. But herein lies the difficulty. The surgeon fails to replace it by manipulation. What next should be done? How long is it admissible to delay the division of the impediment to the reduction of the hernia? Some will reply to this question by fixing a definite number of hours beyond which no delay of the operation can be safely permitted. As for myself, I place no reliance on this calculation as a safe guide. In cases of recently developed hernial protrusion, for example, incessant vomiting depresses the powers of the patient to the lowest point in a very few hours; and, in small herniæ which are tightly constricted by a very strong gripe from the orifice of the sac, recovery may be hopeless in twenty-four hours. And these cases are remarkable for their fatality, and add a large proportion to the death-rate. The surgeon would be guided to the more successful treatment of the disease by observing the characteristics of the vomit. So long as the contents of the stomach alone are rejected, such as the substances and fluids swallowed, or as long as merely bilious vomiting continues, which indicates regurgitation from the duodenum only, palliative measures and aids to assist the reduction of the hernia by the taxis are justifiable; but so soon as the vomit becomes brown, and its odour nauseous—not like that of fæculent matter, for that occurs still later—I consider that the safety of the life of the patient is compromised, unless the intestine be liberated at once by a cutting operation. Do not conclude that I am uttering a hasty or precipitate opinion. Many lives would have been saved, if a cutting operation had been performed within twelve hours after the first vomit, which were sacrificed because it was not done before twenty-four; and, although I am fully aware that many operations upon patients who have survived days of suffering might be quoted as successful, we must remember that even they are to be classed with the lucky escapes from the ordinary termination of long protracted misery. Therefore I would add that no case of hernia should be allowed to remain unreduced after regurgitant vomiting is once fairly established—implying by that term *regurgitation from the jejunum;* for, if this rule were followed and acted upon, I believe the mortality of hernia would be sensibly diminished.

Next, as to the application of the taxis. Those who have not witnessed the results of what is termed "the application of the taxis" can have but a faint notion of the number of deaths which are caused by its

injudicious use. At all stages of the attack of illness, violent pressure is made upon the tumour; and the sufferer may be considered fortunate, if there be a concurrent omental protrusion or abundant serous effusion within the sac—both these accidents being advantageous in protecting the bowel from the effects of violence. When there is regurgitant vomiting, I think the taxis is scarcely admissible; for what at this moment is likely to be the condition of the bowel? It has been constricted many hours (the accuracy in regard to the precise number is not very important); its blood-vessels are congested; its tissues swollen, probably softened: therefore speedily, more quickly damaged by manual pressure than by the continued effects of the natural constriction.

I desire especially to guard myself against the imputation of opposing the employment of the taxis. Practised at the right moment, and in a scientific way, it may be warmly advocated; but, when unsystematically employed, without method or aids, at any stage of the disease, we can only state the fact, that to its consequences are due a large proportion of the deaths from hernia.

Under what circumstances, then, is the taxis admissible? Only at the *earliest* period after the descent of the protrusion, unless *aided* by constitutional and local means. Such means as may be required are usually at hand. Warmth and moisture can be obtained readily where a wash-tub and blanket are in use, as was recently suggested by a provincial surgeon. Ice is now to be obtained in all large towns, and in such localities hernia is most common. Chloroform, especially in inguinal hernia, by producing relaxation of the abdominal muscles, enables the surgeon by gentle pressure to overcome their gripe, as well as that of the orifice of the sac; besides various other measures which it would be idle to allude to here.

But I may be asked to state when the proper moment arrives to perform the cutting operation. I reply, that no special moment can be stated, applicable to every case. This broad principle, however, I venture to enunciate. So soon as regurgitant vomiting is established, and the taxis, aided by measures already stated, has been carefully but unsuccessfully employed, the bowel should be at once liberated from its constriction. For this fact should make a lasting impression: the deaths from hernia do not arise from the operation for the liberation of the bowel, but because the impediment to its reduction was not removed at the proper moment—not from the operation, but for the want of it. And what is there in the operation which deters the surgeon from its performance? It can be completed without giving pain; the loss of blood it causes is not worth consideration; the steps of it are decided and clear; there is, in all essential points, but little variety between one case and another; the tissues divided readily repair the injury inflicted on them; the after-treatment of the wound is simple; and the certainty of a successful result of the operation, when performed at the right moment, may be confidently reckoned upon. Of what other important cutting operation in surgery can we write so cheeringly? Why, then, not operate after certain marked symptoms are observable, and concurrently with which, it is certain, morbid conditions are advancing, and the results of which diseased actions conduce certainly to a fatal result.

The following, then, appear to be the principles upon which our treatment of hernia should be based, if we hope to diminish the mortality arising therefrom.

1. The vomiting must be arrested as quickly as possible; and this can only be certainly done by replacing the protruding intestine.

2. This must be accomplished in one of two ways—either by external

manipulation, *the taxis;* or by cutting the impediment which opposes that step, *the operation.*

3. The taxis should be scientific, gentle, assisted by constitutional and local measures, never used when the bowel may be suspected to be diseased, not prolonged inordinately, and never too frequently repeated.

4. The operation must be immediately performed, as quickly as possible after the surgeon knows that he has failed to replace the protrusion by other means.

In conclusion, I submit that I have only performed a public duty in calling the attention of the profession to a class of diseases from which a high, too high, mortality arises; for of what value are the death-returns of the Registrar-General, if we do not comment upon them, and attempt to reduce them by every means in our power? For a high death-rate from any special disease always shows our inability to combat successfully with it. Especially are we called upon to perform this duty when death ensues upon those diseases which are more under the control of the surgeon than usually happens, and when, by acting upon fixed principles of practice, the fatal issue may be almost certainly averted. Such reflections cannot fail to force themselves upon the attention of the hospital surgeon who has to relieve the patients suffering under strangulated hernia, and admitted weekly, sometimes daily, into his wards. How constantly the expression escapes the operating surgeon, "If they had but sent this case earlier!", no one knows so well as he who has long pursued his calling in the wards of the metropolitan hospitals. I believe that many individual members of the profession are in total ignorance of the annual mortality from hernia; and I would venture to state, on the broad basis of experience, that, if they know what the numbers amount to, they must be, as evidenced by the treatment commonly pursued, totally ignorant of the best means to adopt to save life. Let us hope that one effect of introducing this subject to the consideration of the members of this Association may be to produce a marked diminution in the deaths arising from hernia; for the Reports of the Registrar-General must ever continue to be the test and sure demonstrative evidence of improvement and of advance in the curative results of practical surgery.

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